

ABSTRACT

5 A process for bleaching high bulk cellulosic fiber and producing a durable
elevated curl index includes: (a) concurrently bleaching, heat treating and convolving
cellulosic fiber pulp at elevated temperature and pressure at high consistency
generally under conditions selected so as to preclude substantial fibrillation and
attendant paper strength and fiber bonding development; and (b) recovering the pulp
10 wherein the length weighted curl index of the treated fiber is at least about 20%
higher than the length weighted curl index of the fiber prior to the heat treatment and
convolving thereof. Preferably, the curl imparted to the fiber persists upon treatment
for 30 minutes in a laboratory disintegrator at 3000 rpm at 1% consistency at a
temperature of 125°F. Moreover, the curl may be imparted to the fiber in a disk
15 refiner at very short residence times, on the order of several seconds or less. In
general, the process is carried out in the presence of saturated steam at a pressure of
from about 5 to about 150 psig.